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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,466	10/31/2000	Shunpei Yamazaki	0756-2222	8851

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EXAMINER

SARKAR, ASOK K

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 02/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,466

Applicant(s)

YAMAZAKI ET AL.

Examiner

Asok K. Sarkar

Art Unit

2829

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 Pages
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicant's explanation of the instant invention in pointing the difference with the cited prior art was found to be convincing to the Examiner. Additionally, Applicant's explanation corrects the problems noted in Paper No. 7, paragraphs 4 – 6 and accordingly, the rejection to claims 1 – 25 based on 35 U. S. C. 103 (a) is withdrawn.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 2, 4, 7, 11, 15, 20 and 26 - 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5 and 6 of U.S. Patent No. 6,180,439 B1. All limitations of these claims such as forming semiconductor film with crystallization promoting materials, crystallizing the film by first heating, patterning the film to an island/mesa shape, laser irradiating the island,

reducing crystallization promoting materials by forming a silicon oxide by a second heating are disclosed by claims 5 and 6 of U.S. Patent No. 6,180,439 B1.

5. Claims 14, 18 and 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,180,439 B1. Claim 5 discloses that the second heating is performed at a higher temperature than the first heating.

6. Claims 10, 19 and 25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 24 of U.S. Patent No. 6,180,439 B1. Claim 24 discloses the crystallization promoting materials of the instant claims.

7. Claim 24 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 25 of U.S. Patent No. 6,180,439 B1. Claim 25 discloses that the second heating is performed in an oxidizing atmosphere of halogen gas.

8. Claims 3, 6, 9, 13, 17, 22 and 29 – 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 5 of U.S. Patent No. 6,180,439 B1 in view of Boyan et al., US 4,466,073.

U.S. Patent No. 6,180,439 B1 fails to disclose patterning by isotropic dry etching method.

But, as explained earlier, Boyan et al. teaches a method of dry isotropic etching in column 1, lines 11 – 20 in order to minimize absolute alignment accuracy.

Therefore, given the substantial teaching of claims 4 and 5 of U.S. Patent No. 6,180,439 B1 in view of Boyan et al., it would have been obvious to one with ordinary skill in the art at the time of the invention to manufacture the semiconductor device with semiconductor islands having a tapered shape by isotropic dry etching.

9. Claims 5, 8, 12, 16 and 21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 5 of U.S. Patent No. 6,180,439 B1 in view of Funai et al., US 5,550,070.

U.S. Patent No. 6,180,439 B1 fails to disclose heating at a temperature of 550 to 750°C.

Funai et al. teaches a method of crystallizing the semiconductor film by heating at a temperature of 550°C in column 6, line 39 to 650°C or higher in column 2, line 56.

Therefore, given the substantial teaching of claims 4 and 5 of U.S. Patent No. 6,180,439 B1 in view of Funai et al., it would have been obvious to one with ordinary skill in the art at the time of the invention to manufacture the semiconductor device with semiconductor islands by heating at a temperature of 550 to 750°C to crystallize the semiconductor.

10. Claims 32 - 34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 5 of U.S. Patent No. 6,180,439 B1 in view of Funai et al., US 5,550,070.

U.S. Patent No. 6,180,439 B1 fails to disclose forming a gate electrode on the insulating film.


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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 703 238 2521. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Sherry can be reached on 703 308 1680. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 7722 for regular communications and 703 308 7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 4918.

Asok K. Sarkar
February 5, 2002


MICHAEL J. SHERRY
PRIMARY EXAMINER



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